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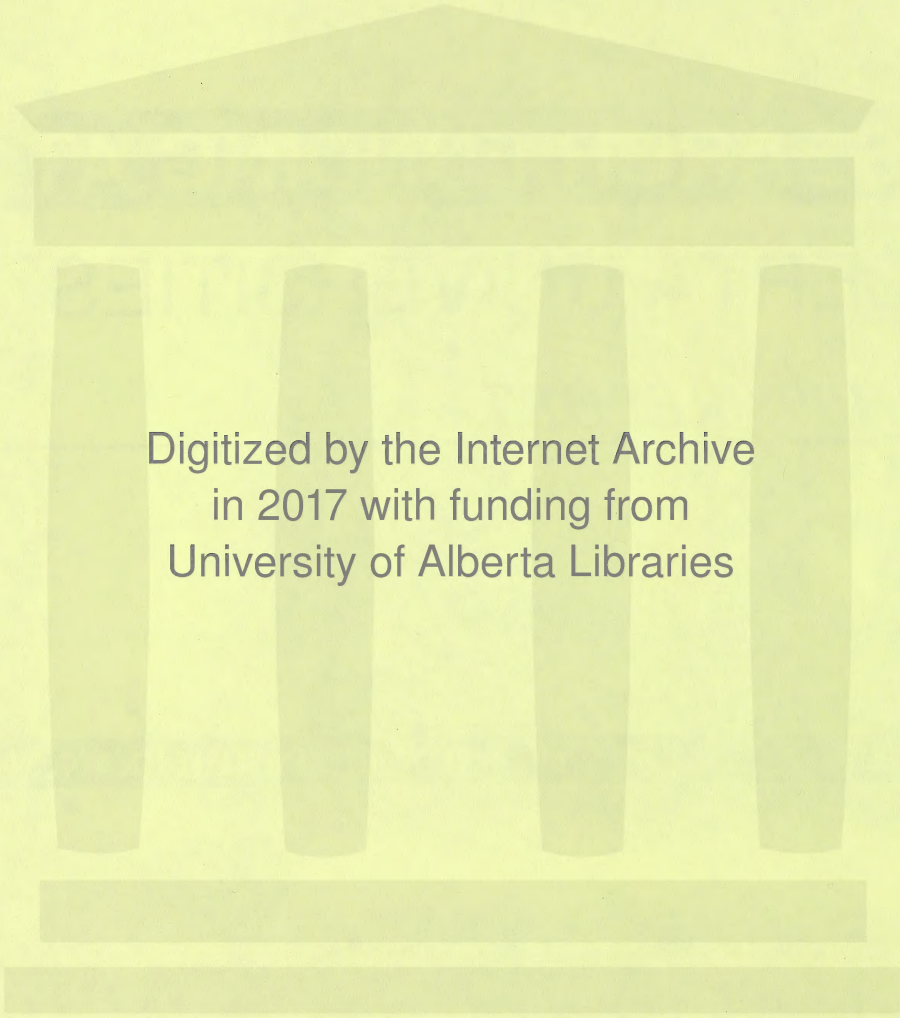
RESEARCH FUNDING AT ALBERTA UNIVERSITIES

1997/1998 REPORT

JUNE 1999 **UNIVERSITY RESEARCH BRANCH**

Alberta
ADVANCED EDUCATION AND CAREER DEVELOPMENT



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INTRODUCTION: UNIVERSITY RESEARCH IN ALBERTA

THE ROLE OF UNIVERSITY RESEARCH

University research is a vital part of Alberta's post-secondary system. The research conducted at Alberta's universities is an integral part of the university educational experience and contributes significantly to the social and economic development of the province.

Research conducted at Alberta's universities:

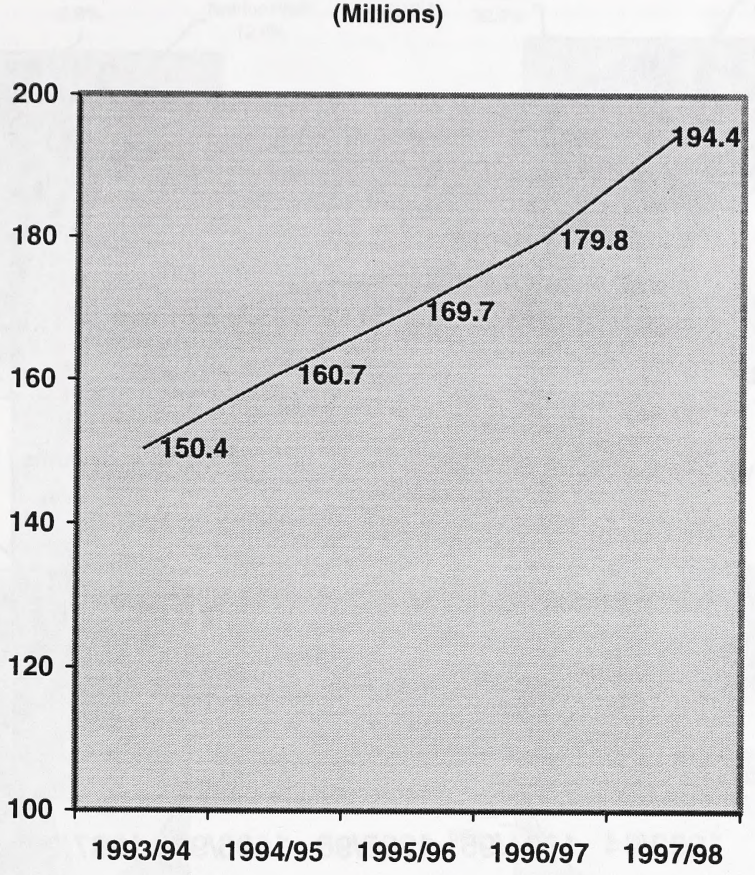
- creates new knowledge that adds to the existing body of understanding;
- disseminates knowledge to inform and enhance learning;
- contributes to the training of highly qualified personnel, including the next generation of university researchers as well as knowledge workers for industry;
- contributes to the social, cultural and economic well-being of the province and of individual Albertans.

Given the rapid pace of economic and technological change, innovation has become central to economic competitiveness and quality of life concerns. University research is a key part of the innovative process. Not only does the research conducted in our universities contribute to the search for innovation in terms of discovery, it also contributes to the development of people with the scientific knowledge and problem-solving skills that can be applied in a wide range of industries.

Within the university system, research and learning are intricately linked. The key output of a university is its graduates and the skills and knowledge that they possess. In the university sector, research is a fundamental element in the development of these skills at both the graduate and the senior undergraduate level. In addition, the success of a university in its research role is a key determinant in attracting the resources, both in terms of people (quality faculty and students) and infrastructure support, that serve to improve the quality of the institution's educational programs.

Figure 1

Sponsored Research Revenue at Alberta Universities: 1993/94 to 1997/98



Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic

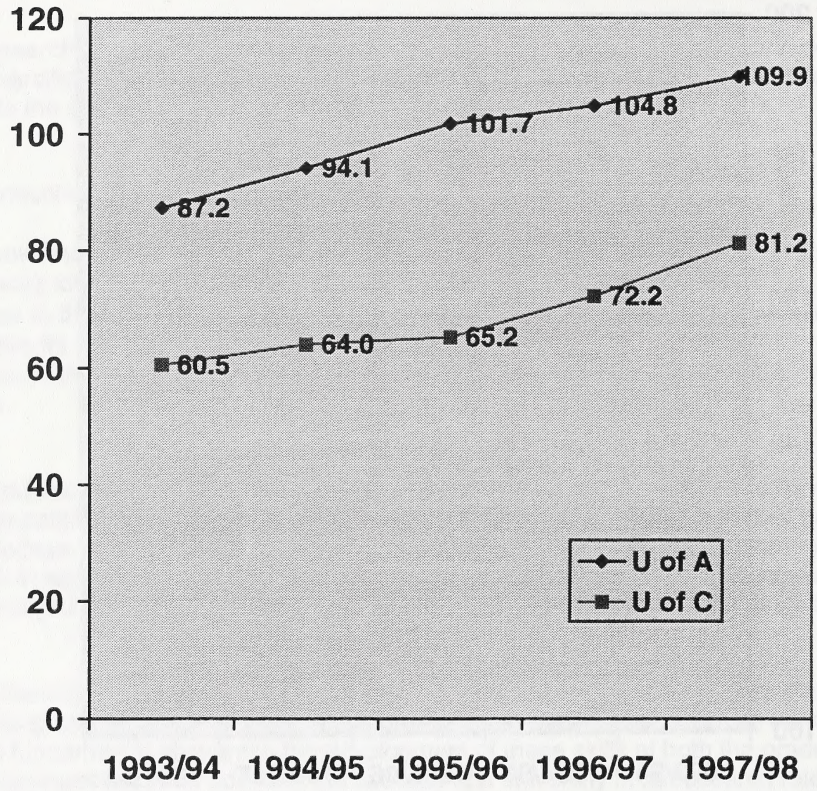
- During fiscal year 1997/98, approximately $194.4 million in direct external funding was received by Alberta's four universities in support of research.
- Total sponsored research funding from all sources to Alberta's university system has been growing by approximately 6.7% per year for the last 5 years.
- Total research funding to all four Alberta universities per year for the last 5 years is as follows:

1993/94: **$150.4 million**
1994/95: **$160.7 million**
1995/96: **$169.7 million**
1996/97: **$179.8 million**
1997/98: **$194.4 million**

Figure 2

Sponsored Research Revenue: U of A & U of C 1993/94 to 1997/98

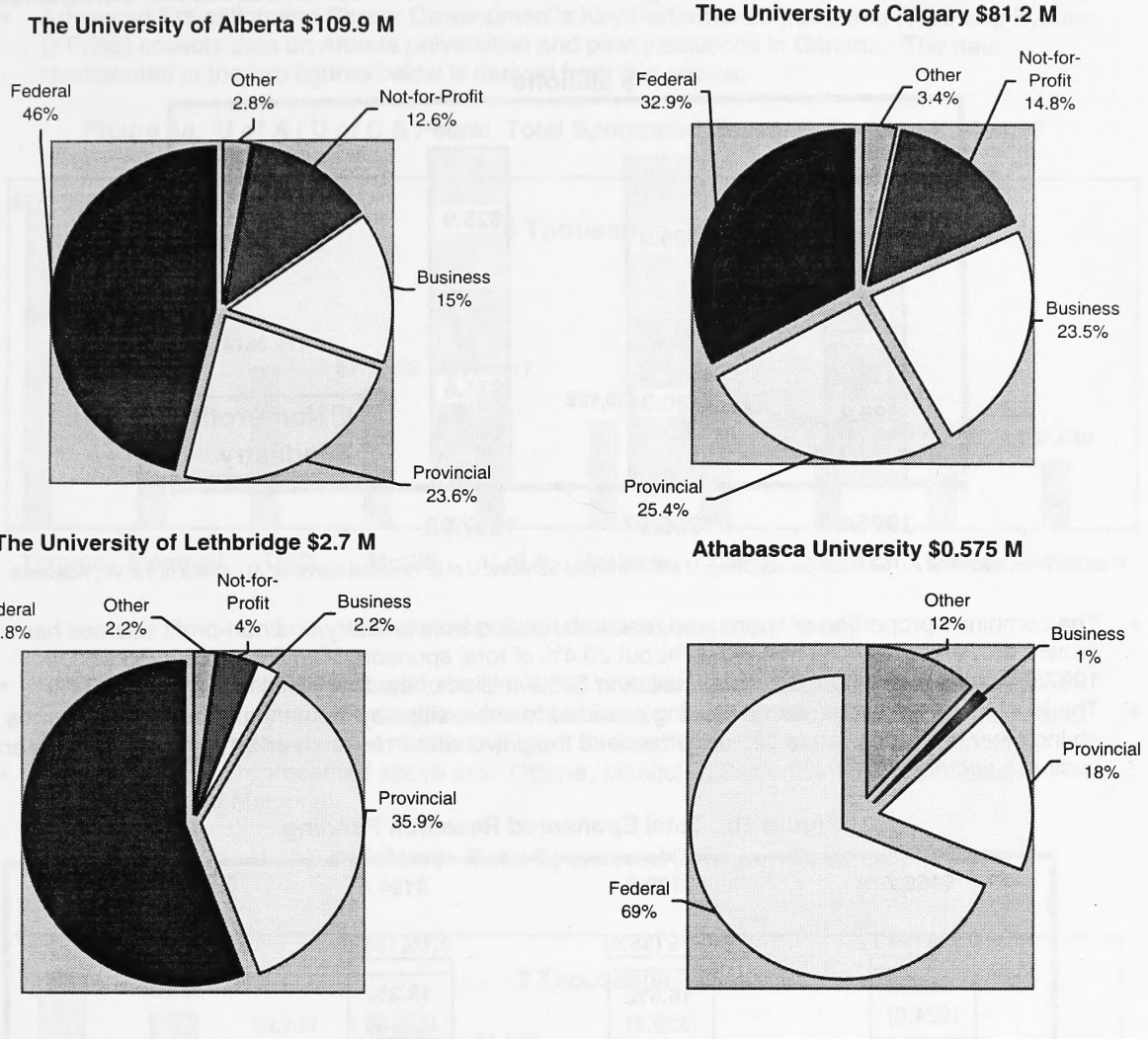
(Millions)



Sources: U of A, Research Grants Office; U of C, Financial Services

- Total research funding from all sources to the U of A has increased by approximately 26% since 1993/94. The U of C's funding has increased by about 34% during the same period.
- The University of Alberta received approximately $109.9 million in research funding in 1997/98, a 4.9% increase from the 1996/97 total ($104.8 million).
- The University of Calgary received approximately $81.2 million in research funding in 1997/98, a 12.5% increase from the 1996/97 total ($72.2 million).
- During fiscal year 1997/98, the U of L received approximately $2.7 million and AU received about $575,000 in support of research. Both smaller universities have been successful in maintaining their respective levels of support (this fiscal year, both had a modest increase in overall funding; see Table 1 for comparative details).

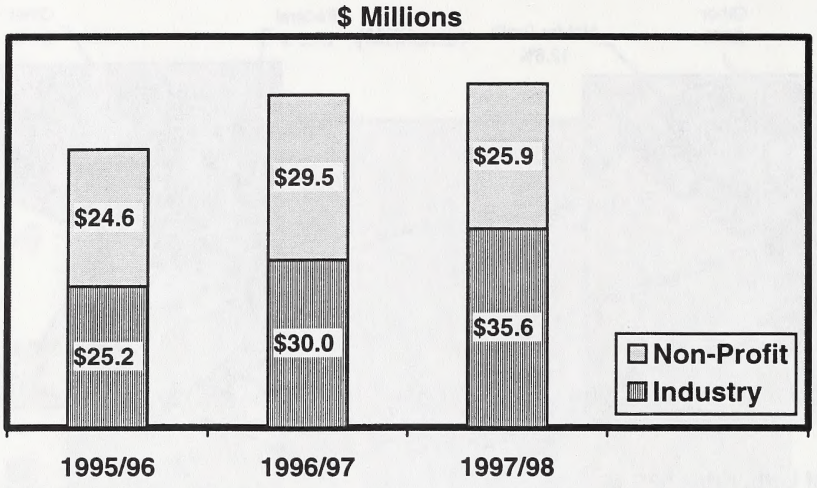
Figure 3: Sponsored Research Revenue by Source 1997/98



Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic

- Funding to the U of A from provincial sources was about $26.0 million, an increase of approximately 30.7%, and federal funding was about $50.6 million, an increase of approximately 2.2%.
- Funding to the U of C from provincial sources was about $20.6 million, an increase of approximately 36.4%, and federal funding was about $26.7 million, a decrease of approximately 6.3%.
- The U of L and AU underwent similar fluctuations in levels of government funding (see Table 1 for details).
- Fluctuations in federal and provincial funding levels are expected, due to such things as program cycles and the completion of funded research projects.

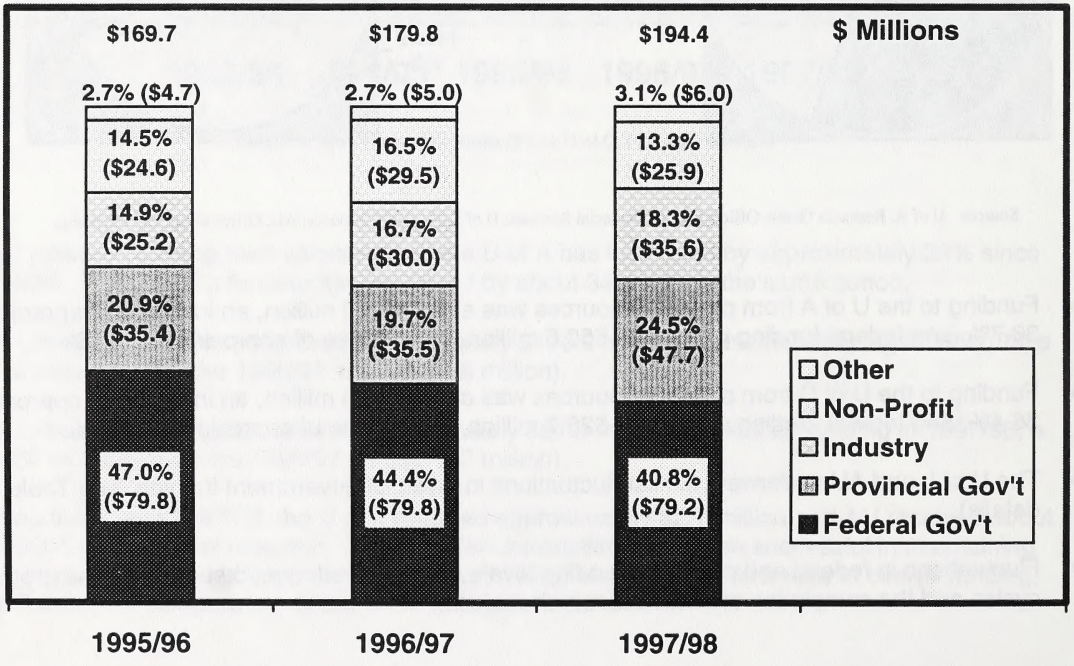
Figure 4a: Industry and Non-Profit Organizations Sponsored Research at Alberta Universities



Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic

- The combined proportion of sponsored research funding from industry and non-profit sources has grown, with these sources making up about 29.4% of total sponsored funding in 1995/96 and, in 1997/98, making up about 31.7%, or just over $61.5 million of the $194.4 million total.
- The level of sponsored research funding provided to universities by industry and non-profit sources is an indicator of the relevance and importance of the universities' research effort to the community and business sector.

Figure 4b: Total Sponsored Research Funding

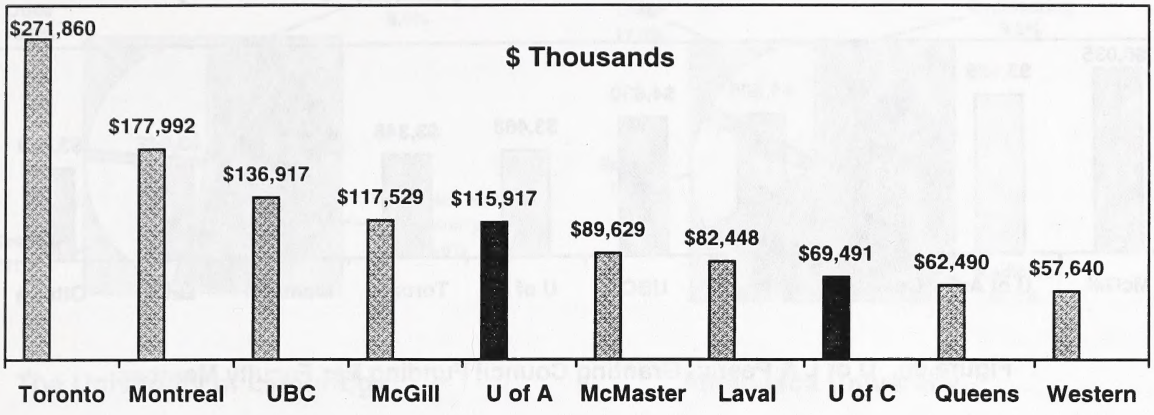


Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic
Note: Dollars and percentages are rounded.

Research Revenues for Alberta and Peer Universities: 1994/97

- Advanced Education and Career Development's Key Performance Indicators Reporting System (KPIRS) collects data on Alberta universities and peer institutions in Canada. The data represented in the two figures below is derived from this source.

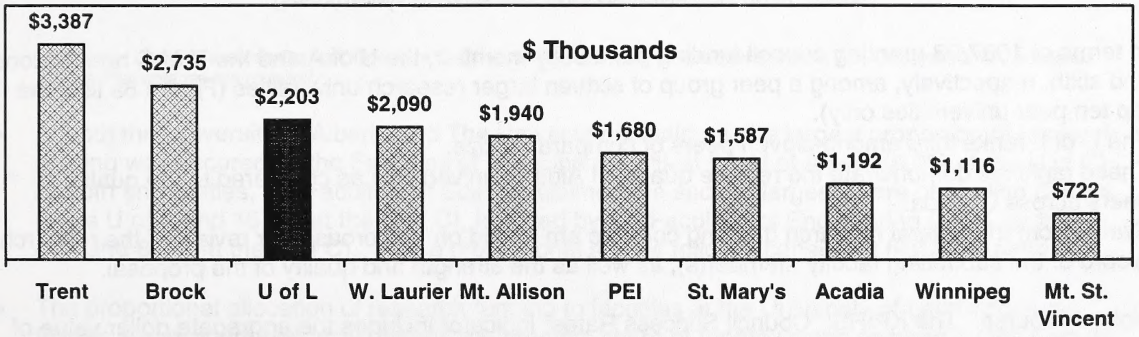
Figure 5a. U of A / U of C & Peers: Total Sponsored Research Revenues 1994/97



Source: AECD's Key Performance Indicators Reporting System (KPIRS)

- Based on 1994/97 rolling averages, the University of Alberta ranked 5th and The University of Calgary ranked 8th among a peer group of sixteen research intensive universities in the level of funding received for sponsored research (Figure 5a lists the top ten peer universities only).
- The six peers not represented above are: Ottawa, Manitoba, Saskatchewan, Dalhousie, Sherbrooke, and Memorial.

Figure 5b. U of L and Peers: Total Sponsored Research Revenues 1994/97



Source: AECD's Key Performance Indicators Reporting System (KPIRS)

- The University of Lethbridge ranked 3rd among a peer group of eleven smaller universities in terms of sponsored research income (the peer university not represented is Brandon).

Note: Totals are 1994/97 Rolling Averages and therefore, in the case of Alberta totals, differ from the1997/98 Alberta university totals listed in Table 1.

Alberta Faculty Members' Granting Council Success Rates: 1995/98

- "Granting Council Success Rates" is one measure of the quality of Alberta's university research. This indicator compares Alberta institutions to their national peers in terms of the level of competitive peer-reviewed sponsored research funding secured from the three federal research granting councils.

Figure 6a. U of A / U of C & Peers: Granting Council Funding Per Faculty Member

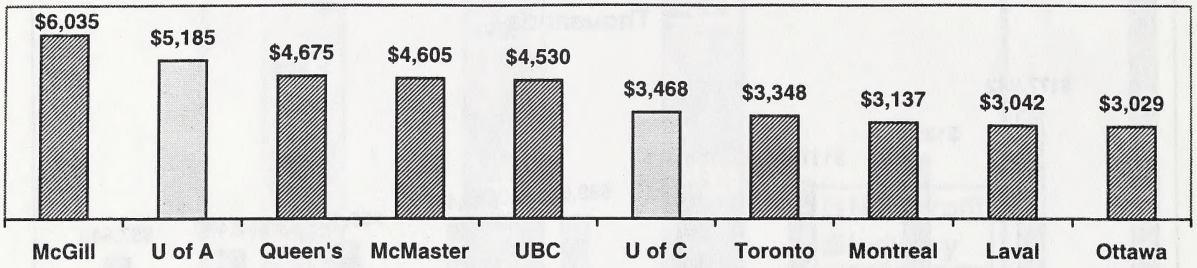
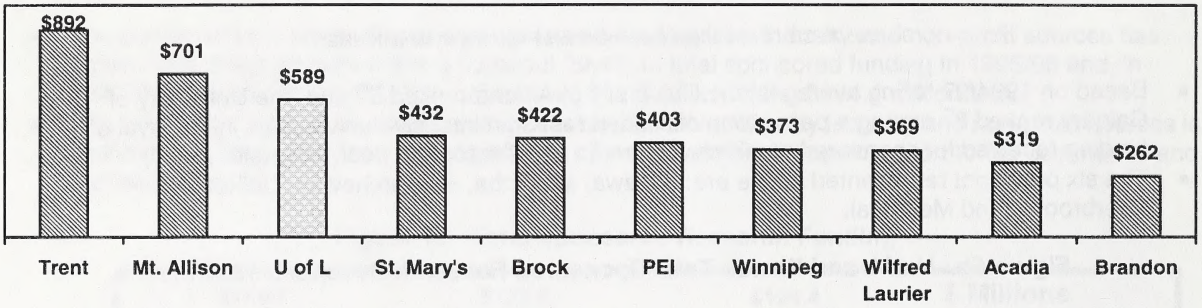


Figure 6b. U of L & Peers: Granting Council Funding Per Faculty Member



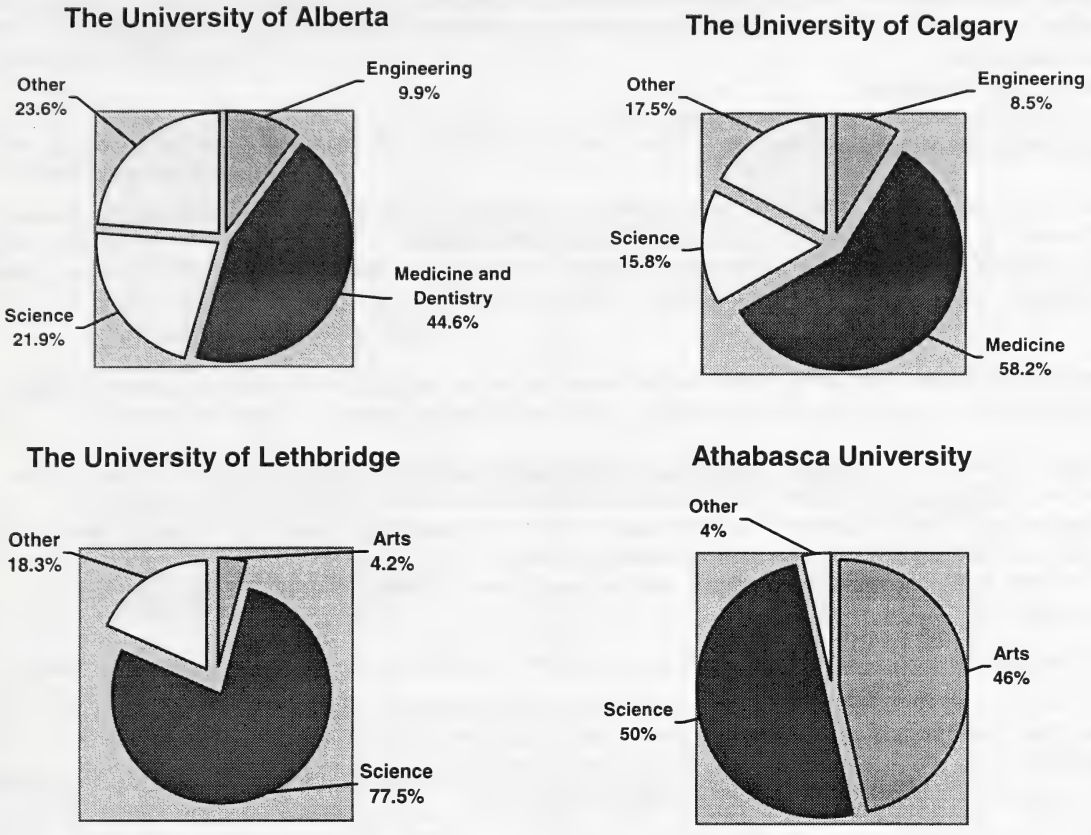
Source: AECD's Key Performance Indicators Reporting System (KPIRS)

- In terms of 1997/98 granting council funding per faculty member, the U of A and the U of C rank second and sixth, respectively, among a peer group of sixteen larger research universities (Figure 6a lists the top ten peer universities only).
- The U of L ranks third among eleven peers of comparable size.
- These rankings demonstrate the relative quality of Alberta universities as compared to the quality of peers across Canada.
- Grants from the federal research granting councils are based on a rigorous peer review of the research record of the submitting faculty member(s), as well as the strength and quality of the proposal.

- Note on source: The KPIRS' "Council Success Rates" indicator includes the aggregate dollar value of new grants awarded by the three national councils in the general category of "operating" or "research" grants, for research programs carried out primarily by individuals or by small teams of faculty members. Excluded are: Networks of Centres of Excellence grants, major collaborative/group grants, equipment grants, infrastructure support, stipend awards, scholarships or fellowships, targeted or joint-funded research projects, or other special purpose awards. These other competitive awards are excluded to ensure comparable data on new awards per individual faculty member.

Figure 7

Percentage Distribution of Total Sponsored Research Revenue: 1997/98



Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services; AU, Office of the VP, Academic
Note: Percentages are rounded.

- At both the University of Alberta and The University of Calgary, the largest proportion of research funding was secured by the Faculties of Medicine (44.6% at the U of A and 58.2% at the U of C). At both universities, the Faculties of Science claimed the second largest share of funding (21.9% at the U of A and 15.8% at the U of C), followed by the Faculties of Engineering (9.9% at the U of A and 8.5% at the U of C). These proportional shares follow a consistent historical pattern.

- The proportional allocation of research funding to faculties at the University of Lethbridge also follows a consistent historical pattern, the greatest share of funding being secured by the Faculty of Science—a share that has increased annually (64.1% in 1995/96, 76.6% in 1996/97, and 77.5% in 1997/98).

- It should be noted that funding amounts vary by discipline but the intensity of research in faculties isn't necessarily commensurate with monetary allocations to faculties. For example, research activities in the Arts, Humanities, and Social Sciences are less costly to conduct; therefore, the intensity of such research is not necessarily reflected in monetary terms.

Advanced Education and Career Development Support for Research at Alberta Universities

In addition to the research funding sources noted in this report, the research infrastructure at Alberta universities is supported by Advanced Education and Career Development through the following:

- operating grants
- Performance Envelope
- Intellectual Infrastructure Partnership Program
- Research Excellence Envelope

It should be noted that operating grants, program and envelope funds are used to support the research infrastructure as opposed to supporting specific research projects. There is, however, a clear link between funding infrastructure and attracting external funding for research activities (i.e., the better the infrastructure, the greater the potential to attract sponsored funding).

The total 1997/98 **base operating grant** for the three residential universities was **about $390.3 million**, approximately 40% of which goes to supporting the research infrastructure (i.e., about $156.1 M).

The research component of AECD's **Performance Envelope** provides additional funding based on the extent to which Alberta universities meet an agreed upon subset of the department's research Key Performance Indicators, which involves comparisons with their respective peer universities and the level of support they received from communities and industries.

- In 1997/98, the three residential universities received **over $1.8 million** from the research component of this Envelope.

Note: The IIPP and REE tables in this section show the total funding amounts awarded in 1997/98 and thus differ from the amounts recorded under these categories in Table 1 (p #).
These award totals are included in this section of the report to give a sense of the overall 1997/98 AECD funding contribution to research at Alberta universities.

IIPP and REE revenue recorded in Table 1 is reported on a cash-flow basis with one modification: that revenues cannot be reported until all partner funding is secured, which is a condition of the IIPP for all projects. This being the case, only projects which had met this condition in 1997/98 were reported and included in the Table 1 totals. As other IIPP projects become finalized, future Table 1 totals will reflect this revenue. The table will also reflect CFI revenue, which is included as a new category in Table 1 beginning this reporting year—albeit there were no 1997/98 revenues to report from this source.

Intellectual Infrastructure Partnership Program (IIPP)
Begun in 1997 with funding of $15 million per annum, which was expanded to a total of $75 million over 5 years, the IIPP is designed to increase research excellence and competitiveness of Alberta universities and research hospitals by investing strategically in their research infrastructure. Major objectives of the IIPP are to promote high quality university research through the development of institutional and collaborative centers of research excellence, and to encourage projects that strengthen the research infrastructure in areas of strategic importance to the province. A key objective of the IIPP is to help Alberta universities attract and retain high quality faculty and graduate students. The program funds, on average, 40% of total project costs and is designed to attract both private sector investment and Canada Foundation for Innovation funding. There is a category for projects that are selected in a competitive process and a category for allocating small equipment grants to the universities.

Total IIPP funding amounts awarded in 1997/98
In 1997/98 the IIPP allocated **$3,150,000** in "Equipment" grants (for equipment under $350,000), and approved eight projects in the competitive "Major Equipment and Installations" category ($350,000 to $2 M) with a total IIPP investment of **$3.9 million**. The balance of the $15 million was carried forward for the 1998/99 "Strategic Development Program" competition, the details of which will be given in the next installment of this report.

The following tables show how the Equipment grant funding was allocated and the breakdown of competitive awards for 1997/98:

1997/98 Equipment Grants	
University of Alberta	**1,609,200**
University of Calgary	**1,167,300**
University of Lethbridge	**331,800**
Athabasca University	**41,700**

1997/98 Major Equipment and Installations awards	
University of Alberta	**2,131,909**
University of Calgary	**1,760,000**
University of Lethbridge	**Nil**
Athabasca University	**Nil**

Note: the U of L and AU did not compete in the 1997/98 Major Equipment and Installations category.

Major Equipment and Installations projects approved in 1997/98
The IIPP contributed, on average, 40% of the capital funding for the following projects. Other partner funds came from various sources, such as the Canada Foundation for Innovation (CFI), the Alberta Heritage Foundation for Medical Research (AHFMR), and the Alberta Science and Research Authority (ASRA). Significant funds were also contributed by business and industry sources, non-profit sources, the universities, and other government sources.

The University of Alberta's projects:

- **National Bio-molecular Very High Field Nuclear Magnetic Resonance Facility:** IIPP funding was provided to help purchase a superconducting magnet for a new, state-of-the art NMR Spectrometer facility.
- **Laboratory for Laser Applications in the Natural Resource Industries:** IIPP funding went towards the purchase of a state-of-the-art laser and detector system to support a sponsored Industrial Research Chair in Laser and Spectroscopic Applications in the Natural Resources Industries.
- **Confocal Microscope for Experimental Oncology Cellular Imaging Facility:** This is a joint project at the Cross Cancer Institute/U of A. IIPP funding went towards the purchase of an advanced, high-resolution microscope system that provides three-dimensional images which can be used to analyze living cells and tissues.

The University of Calgary's projects:

- **Enhanced Bio-NMR Facility High Field Solid State Nuclear Resonance Facility:** IIPP funding was provided to help purchase a 600 Megahertz spectrometer with solid state capacity to enable the study of non-soluble proteins with potential applications to the agricultural, medical, and oil and gas sectors.
- **Construction of a Level 3 Containment Facility:** IIPP funding went towards the construction of a new facility to enable research on level 3 pathogens.
- **Provincial Centres of Health/Biomedical Research and Training Facilities:** IIPP funding was provided for the construction and development of new facilities in the U of C's Faculty of Medicine, which will strengthen Alberta's bio-medical research base.

- The last two approved projects are linked and involve both the U of A and the U of C. Both projects make up phase one of the **Multimedia Advanced Computational Infrastructure (MACI-1)**. This joint project links research activities in universities and industry in Alberta to create a world-class advanced computational and digital media infrastructure that will support collaborative research across all sectors.

Note: For more information on these projects, visit the IIPP home page at *www.aecd.gov.ab.ca.* The universities also have information on these projects on their respective web sites.

Research Excellence Envelope (REE)

Begun in 1996 with $2 million per annum, which was increased to $3.5 million in 1997, the REE is designed to reward and foster sustained research excellence at Alberta universities through providing funding to help recruit and retain high quality researchers and graduate students in areas of identified strengths. REE funds are allocated to the universities on the basis of a formula that recognizes the success of researchers in receiving federal granting council awards and the number of faculty per institution. Funds are then allocated internally by the universities and are used for research infrastructure enhancements such as equipment and labs, as well as for other costs related to research, including support for graduate students or associates involved in the research programs of the targeted researchers.

The following table shows the breakdown for the 1997/98 REE grant, including the number of researchers recruited and/or retained.

1997/98 REE Grant		
Institution	**REE Grant**	**Recruits**
University of Alberta	$1,888,581	46
University of Calgary	$1,353,164	67
University of Lethbridge	$210,167	18
Athabasca University	$48,088	13
TOTAL	**$3,500,000**	**144**

- REE funds were allocated across the spectrum of faculties at all universities. The faculties of medicine, science, and engineering received the largest shares and targeted the greatest number of researchers.
- Other funds used in conjunction with REE funds were from many sources: the universities, the federal granting councils, other provincial sources such as the Alberta Heritage Foundation for Medical Research (AHFMR), and both the non-profit and private sector.

Note: For more information on 1997/98 REE awards, visit the REE home page at *www.aecd.gov.ab.ca.*

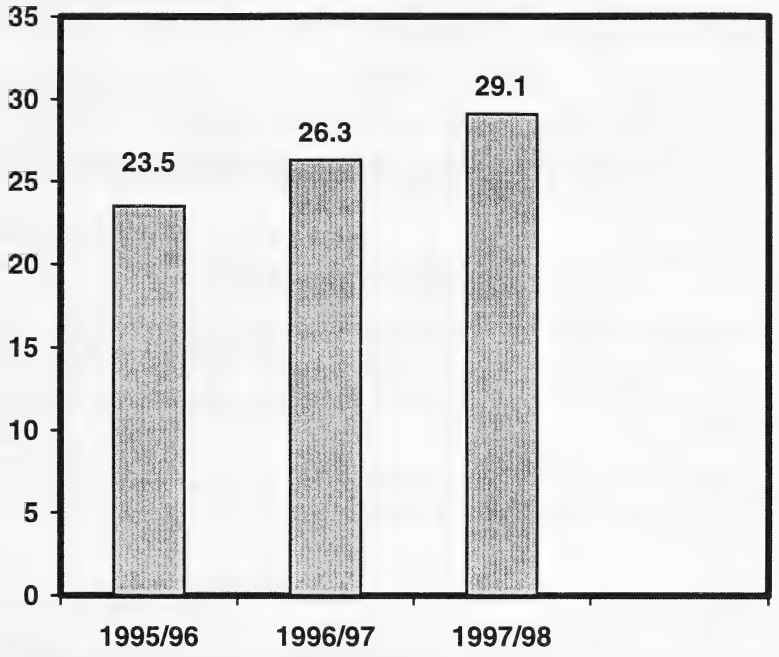
Figure 8

Alberta Heritage Foundation for Medical Research (AHFMR)

- The AHFMR supports Alberta-based medical research through providing equipment grants, establishment grants to help researchers with new research programs, and through funding for other aspects of medical research.
- AHFMR's support and leadership has resulted in millions of dollars of support to Alberta universities and research hospitals, and has enabled Alberta to become one of the ten top medical research centres in North America.

AHFMR revenue at Alberta Universities: 1995/96 to 1997/98

(Millions)



Sources: U of A, Research Grants Office; U of C, Financial Services; U of L, Financial Services

- AHFMR support to Alberta's universities has been increasing by about 11.3% per year for the last 3 years (see Table 1 for comparative details).
- During fiscal year 1997/98, the AHFMR provided approximately $15.3 million to the U of A and about $13.6 million to the U of C. During the same fiscal year, the AHFMR provided about $160,000 to the U of L.

Commercialized Research Revenue: 1997/98

Both the University of Alberta and The University of Calgary generate funding through the activities of their respective technology transfer organizations. The impact of university research is reflected in the successes of these organizations, in the growing number of licenses generating revenue, royalty revenues and spin-off companies. These successes give a sense of one of the impacts of university research as it is applied and transferred to business and industry.

The University of Alberta

The University of Alberta's Industry Liaison Office (ILO) brought in over $4.3 million in licensing revenues for 1997/98—the highest of any Canadian university and among the top 25 in North America. The majority of this revenue goes back into funding research activities.

Other ILO commercialization achievements in 1997/98 are as follows:

- 85 new Reports of Invention were submitted;
- 44 patent applications were filed or continued;
- 34 new products and technologies were licensed;
- 103 licenses are active;
- 9 spin-off companies were formed (for a total of 40 since 1994).

The U of A's rate of spin-off company creation is among the highest in North America and these spin-off companies hold more than 230 issued patents.

The University of Calgary

The University of Calgary's wholly owned technology transfer company, University Technologies International Inc. (UTI), ranks second among Canadian universities generating royalty revenues from licensed technologies. In 1997/98, UTI distributed $3.04 million in royalties, an increase of $50,000 over the 1996/97 total.

In addition, UTI attracted $604,000 in Product Development Agreements to the U of C and contributed $30,000 directly in post-graduate fellowships.

Also in 1997/98, UTI:

- executed 31 new deals;
- created its 13th start-up company;
- created a new corporate initiative called New Enterprises, which will pursue the creation of new companies from research technology; and,
- reported having 59 licenses generating revenue from its portfolio of more than 300 patents.

Note: Through a formal letter of agreement between the University of Lethbridge and University Technologies International Inc., U of L researchers are able to access UTI's technology commercialization services.

Other Sources of Research Revenue: 1997/98

Reporting Standards:

- The universities follow common approaches to most of their reporting. There are, however, a number of complexities that are receiving attention from the universities to explore standardized reporting for improved comparability. These include: investment earnings (primarily endowment) allocated to research expenditure, Networks of Centres of Excellence revenue, and clinical trials funding.
- Although attempts to standardize the reporting of these sources is ongoing, differing situations at the University of Alberta and the University of Calgary make reporting these three sources in the same manner particularly difficult. In the interim, the explanatory notes and revenues recorded below have been included in this year's report for two reasons: to ensure that this report is as inclusive of all research revenue as possible, and to allow for a comparable overview of the significant revenues derived from these three sources at the U of A and the U of C.

The University of Alberta

Investment Earnings from Endowments

- Investment earning from endowments have not been included in Table 1 (Sponsored Research Revenue).
- The U of A capitalizes approximately half of the gross investment earnings from endowments (i.e., re-invests half of the earnings back into the endowment fund) prior to allocating an accessible portion for research purposes.
- **Accessible endowment earnings for research purposes: $13,275,000**

Networks of Centres of Excellence (NCEs)

- All payments to NCEs headquartered at the U of A come directly from the federal granting councils involved, and are included in the Sponsored Research Revenue Report (i.e., included in Table 1 under appropriate granting council lines). Transfer payments to the U of A from other NCEs headquartered elsewhere are included.

NCEs Headquartered at the University of Alberta	**Council**	**Revenue**
Sustainable Forest Management	SSHRC	1,507,000
Sustainable Forest Management	NSERC	1,507,000
Protein Engineering Centre	NSERC	1,750,000
Protein Engineering Centre	MRC	1,575,000
Total		**6,339,000**
NCEs Headquartered at other universities		
Canadian Bacterial Diseases Network		482,000
Canadian Genetic Diseases Network		119,000
Health Evidence Application & Linkage Network		54,000
Canadian Institute for Telecommunications Research		134,000
Intelligent Sensing for Innovative Structures		125,000
Mechanical Chemical Wood Pulps Network		125,000
Microelectronic Devices, Circuits & Systems		57,000
Neurosciences Network		507,000
Total		**1,603,000**

Note: NCE funding for Sustainable Forest Management and Protein Engineering Centre is split approximately equally by the relevant councils, as the above table illustrates. This split follows a historical pattern.

U of A (continued)

Clinical Trials

- Virtually all funds for clinical trials are received, held, and administered by the Capital Health Authority, with a small portion administered by the Alberta Cancer Board.
- Revenues for clinical trials reported by the Capital Health Authority and Alberta Cancer Board—plus an additional estimated $1.0 M not formally reported to either agency—bring the total estimated clinical trials revenue for the University of Alberta to **$10 million** for 1997/98.

The University of Calgary

Investment Income

- In addition to the $81.2 million in sponsored research funding received during the year ending March 31, 1998 (see Table 1), the U of C allocated **$23.2 million of investment income to research activities.**
- From the $23.2 million, approximately $19 million was transferred to research based endowments and the remaining $4.2 million was made available for spending on research activities for the year.

Networks of Centres of Excellence (NCEs)

- The U of C is responsible for administering a Network of Centres of Excellence (NCE) that provides grants to researchers at universities across Canada. Funding for the NCE is provided by the Natural Sciences and Engineering Research Council (NSERC) and the Medical Research Council (MRC).
- The majority of the research grants are awarded to individuals at other universities. Accordingly, the funding provided to administer the NCE **($3.0 million** for the year ending March 31, 1998) is not included as sponsored research (i.e., not included in Table 1).

Clinical Trials

- The U of C has entered into an agreement with the Calgary Regional Health Authority with respect to the administration of industry sponsored, patient-based clinical research. Under this agreement, the researcher has the option of administering the financial resources of each individual clinical trial through the financial system of either the University of Regional Health Authority, regardless of the physical location where the clinical trial is held. To date, the majority of these clinical trials are administered through the University's financial system.
- **The total clinical trial revenue for the year ended March 31, 1998, included as sponsored research is $8.44 million.**

TABLE 1: Sponsored Research Funding Revenue (in thousands of dollars)

SOURCES			1995-96	1996-97	1997-98
GOVERNMENTS:	NSERC	Alberta	23,876	24,842	**25,701**
		Calgary	12,386	12,653	**11,616**
		Lethbridge	966	965	**1,172**
		Athabasca	21	24	**22**
	SSHRC	Alberta	2,952	3,711	**4,043**
		Calgary	940	934	**909**
F		Lethbridge	300	247	**98**
E		Athabasca	141	182	**163**
D	MRC	Alberta	16,873	15,675	**16,259**
E		Calgary	11,529	11,877	**11,211**
R		Lethbridge	55	76	**110**
A		Athabasca	--	--	**--**
L	CFI	Alberta			**--**
		Calgary	*N/A: reporting this source begins in		**--**
		Lethbridge	1997-98 (no revenues to report)		**--**
		Athabasca			**--**
	OTHER	Alberta	6,371	5,253	**4,582**
		Calgary	3,080	3,052	**2,992**
		Lethbridge	89	51	**137**
		Athabasca	260	205	**212**
	Subtotal	Alberta	50,072	49,481	**50,585**
		Calgary	27,935	28,516	**26,728**
		Lethbridge	1,410	1,338	**1,517**
		Athabasca	422	411	**397**
	AHFMR	Alberta	11,879	13,370	**15,317**
		Calgary	11,533	12,613	**13,572**
		Lethbridge	134	271	**160**
		Athabasca	--	--	**--**
A	IIPP	Alberta			**1,320**
L		Calgary	*N/A: Reporting this source begins in		**2,927**
B		Lethbridge	1997/98.		**332**
E		Athabasca			**42**
R	REE	Alberta			**1,889**
T		Calgary	*N/A: Reporting this source begins in		**1,353**
A		Lethbridge	1997/98.		**210**
		Athabasca			**48**
	OTHER	Alberta	9,791	6,499	**7,449**
		Calgary	1,895	2,510	**2,795**
		Lethbridge	158	227	**272**
		Athabasca	4	13	**14**
	Subtotal	Alberta	21,670	19,869	**25,975**
		Calgary	13,428	15,123	**20,647**
		Lethbridge	292	498	**974**
		Athabasca	4	13	**104**
OTHER GOVERNMENT		Alberta	1,734	1,725	**2,433**
		Calgary	512	484	**721**
		Lethbridge	61	29	**30**
		Athabasca	53	58	**69**
BUSINESS		Alberta	12,522	14,075	**16,494**
		Calgary	12,694	15,948	**19,050**
		Lethbridge	--	21	**59**
		Athabasca	5	5	**5**
NOT FOR PROFIT		Alberta	14,987	18,909	**13,800**
		Calgary	9,161	10,352	**12,022**
		Lethbridge	453	316	**108**
		Athabasca	--	--	**--**
OTHER		Alberta	725	782	**639**
		Calgary	1,484	1,809	**2,014**
		Lethbridge	40	30	**29**
		Athabasca	--	--	**--**
TOTAL		Alberta	**101,710**	**104,841**	**109,926**
		Calgary	**65,214**	**72,232**	**81,182**
Note: Totals may not add due to rounding.		Lethbridge	**2,256**	**2,232**	**2,717**
		Athabasca	**485**	**487**	**575**

Sources: The University of Alberta: Research Grants Office; The University of Calgary: Financial Services; The University of Lethbridge: Financial Services; Athabasca University: Office of the Vice-President, Academic.

Sources

As begun with the 1996-97 report, this year's report again makes use of the department's Key Performance Indicators Reporting System data, which has been substituted for the CAUBO data used in past reports. As well, new information derived from research indicators has been added to the report.

Using KPIRS data serves to provide the report with current, provincially relevant information, such as how Alberta universities compare with their respective peer groups, and how Alberta researchers compare with researchers from other universities.

Aside from data derived from KPIRS, other sources of information contained in the report's tables and graphs are as follows:

University of Alberta: Research Grants Office
University of Calgary: Financial Services
University of Lethbridge: Financial Services
Athabasca University: Office of the Vice-President, Academic

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